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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/676,220

10/01/2003

Shahzad H. Bhatti

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02/13/2006

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EXAMINER

KIM, HONG CHONG

ART UNIT

PAPER NUMBER

2185

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/676,220

Applicant(s)

BHATTI, SHAHZAD H.

Examiner

Hong C. Kim

Art Unit

2185

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 18-24 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/1/03</u> . | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

1. Claims 1-24 are presented for examination. This office action is in response to the application filed on 10/1/2003.

Specification

2. The status of the referenced U.S. applications must be updated accordingly (e.g., U.S. Patent Application Serial No. ####,### filed Sept. 07, 1990, now abandoned; ..., now U.S. Patent #,###,### issued Jan. 01, 1994; or This application is a continuation of Serial Number ####,###, filed on December 01, 1990, now abandoned; ...etc.) in the Related Applications section and in any other corresponding area in the specification, if any.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 10/1/2003 is being considered by the examiner.

The examiner requests, in response to this Office action, any reference(s) known to qualify as prior art under 35 U.S.C. sections 102 or 103 with respect to the invention as defined by the independent and dependent claims. That is, any prior art (including any products for sale) similar to the claimed invention that could reasonably be used in a 102 or 103 rejection. This request does not require applicant to perform a search. This request is not intended to interfere with or go beyond that required under 37 C.F.R. 1.56 or 1.105.

The request may be fulfilled by asking the attorney(s) of record handling prosecution and the inventor(s)/assignee for references qualifying as prior art. A simple statement that the query has been made and no prior art found is sufficient to fulfill the request. Otherwise, the fee and certification requirements of 37 CFR section 1.97 are waived for those documents submitted in reply to this request. This waiver extends only to those documents within the scope of this request that are included in the application's first complete communication responding to this requirement. Any supplemental replies subsequent to the first communication responding to this request and any information disclosures beyond the scope of this are subject to the fee and certification requirements of 37 CFR section 1.97.

In the event prior art documentation is submitted, a discussion of relevant passages, figs. etc. with respect to the claims is requested. The examiner is looking for specific references to 102/103 prior art that identify independent and dependent claim limitations. Since applicant is most knowledgeable of the present invention and submitted art, his/her discussion of the reference(s) with respect to the instant claims is essential. **A response to this inquiry is greatly appreciated.**

The examiner also requests, in response to this Office action, support be shown for language added to any original claims on amendment and any new claims. That is, indicate support for newly added claim language by specifically pointing to page(s) and line number(s), in the specification and/or drawing figure(s). This will assist the examiner in prosecuting the application.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The title should be more specific to differentiate the invention from similar inventions in the patent literature. "data objects" and "block address" aspects of the invention should be mentioned in the title so that the title is more descriptive.

Claim Objections

5. Claims 20-24 are objected to because of the following informalities: As to claims 20-24, it appears that "—computer readable storage medium containing instruction that when executed by a processor cause – should be added to avoid possible 35 USC 101 rejection. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-16 and 18-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Kihara et al. (Kihara) U.S. Patent No. 6,212,097.

As to claim 1, Kihara discloses the invention as claimed. Kihara discloses a storage system (Fig. 1) comprising: a storage medium (Fig. 3 ref. 42) containing blocks

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identified by block addresses (col. 10 lines 4-7), the storage medium to store data in hierarchical data structures (Fig. 7), each hierarchical data structure containing plural levels of data objects (Fig. 7), and each hierarchical data structure stored in a respective group of the blocks (Figs. 6 and 7); and a controller (Fig. 3 Ref. 41) to: in response to a request containing an identifier of at least one of the hierarchical data structures, generate one or more block addresses based on the identifier; and access one or more blocks indicated by the one or more block addresses (Fig. 6 and col. 10 lines 4-7).

As to claim 2, Kihara further discloses a storage location to store information to convert identifiers of hierarchical data structures to respective ranges of block addresses (Figs. 5 & 6 and col. 10 lines 4-7).

As to claim 3, Kihara further discloses wherein the storage location is part of the controller (Fig. 6 and col. 10 lines 4-7).

As to claim 4, Kihara further discloses wherein the storage location is part of the storage medium (Figs. 5 & 6 and col. 10 lines 4-7).

As to claim 5, Kihara further discloses wherein the request comprises one of a read and write request (col. 9 line 5, recorder/player).

As to claim 6, Kihara further discloses wherein the request comprises another identifier to identify one of the data objects in the hierarchical data structure (Figs. 5-7).

As to claim 7, Kihara further discloses wherein the request comprises one or plural pointers to point to one or more locations within the data object identified by the another identifier (Figs. 5-7).

As to claim 8, Kihara further discloses wherein each hierarchical data structure comprises data objects sharing a common characteristic (Fig. 5, plural user blocks reads on this limitation).

As to claim 9, Kihara further discloses wherein each hierarchical data structure comprises a root data object and additional data objects at lower levels of the hierarchical data object (Fig.7).

As to claim 10, Kihara further discloses wherein at least one of the data objects is associated with a function invocable by the request to perform a predefined task (Figs. 5-7 and 10s).

As to claim 11, Kihara further discloses wherein at least one of the data objects is associated with an attribute accessible by the request (Figs. 5-7).

As to claim 12, Kihara further discloses wherein at least some of the data objects are associated with respective functions invocable by one or more requests to perform predefined tasks (Figs. 5-7 and 10s).

As to claim 13, Kihara further discloses wherein the at least some of the data objects are associated with attributes defining characteristics of respective data objects (Figs. 5-7).

As to claim 14, Kihara further discloses wherein each hierarchical data structure includes at least one leaf object, a root object, and at least one intermediate object coupled between the leaf object and the root object (Fig. 7).

As to claim 15, Kihara discloses the invention as claimed. Kihara discloses a method of accessing data (Fig. 1), comprising: storing, by a storage system (Fig. 3 Ref. 42), data in hierarchical data structures (Figs. 5-7), each hierarchical data structure containing plural levels of data objects (Fig. 7); receiving, at the storage system, a request (Fig. 3 Ref. 41 and col. 9 line 5) containing an identifier of one of the hierarchical data structures (Figs. 5-7); and converting, by the storage system, the identifier to one or more block addresses to specify corresponding blocks in a storage medium (col. 10 lines 4-7).

As to claim 16, Kihara further discloses wherein receiving the request comprises receiving the request from a host system (col. 7 lines 11-14)

As to claim 18, Kihara further discloses storing a table of identifiers and corresponding block addresses in the storage system, wherein converting the identifier to the one or more block addresses is based on the table (Figs. 5-7).

As to claim 19, Kihara further discloses wherein receiving the request comprises receiving the request that further includes another identifier to identify one of the data objects in the one hierarchical data structure (Figs. 5-7).

As to claim 20, Kihara discloses the invention as claimed. Kihara discloses an article comprising at least one storage medium containing instructions that when executed cause a storage system to: store data in hierarchical data structures (Figs. 5-7), each hierarchical data structure containing plural levels of data objects, and each hierarchical data structure stored in a respective group of blocks of a storage medium (Fig. 3 Ref. 42) in the storage system; receive a request (Fig. 3 ref. 41 col. 9 line 5, recorder/player) containing an identifier of one of the hierarchical data structures; and convert the identifier to one or more block addresses to specify corresponding blocks in the storage medium of the storage system (col. 10 lines 4-7).

As to claim 21, Kihara further discloses wherein the instructions when executed cause the storage system to further store functions associated with data objects of the hierarchical data structure, each function to perform a predefined task on a respective data object (Figs. 5–7).

As to claim 22, Kihara further discloses wherein the instructions when executed cause the storage system to further: receive a second request; and invoke at least one function associated with at least one of the data objects in response to the second request (Figs. 10's).

As to claim 23, Kihara further discloses wherein the instructions when executed cause the storage system to further: store attributes associated with the data objects; receive a third request; and access attributes associated with at least one of the data objects in response to the third request (Fig. 10s).

As to claim 24, Kihara further discloses wherein receiving the request comprises receiving a request containing a second identifier to identify one of the data objects in the one hierarchical data structure. (Figs. 5-7 and 10s)

Allowable Subject Matter

7. Claims 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and overcome claim objections.

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See attached PTO-892.

2. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) days from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the application (see 35 USC 133, MPEP 710.02, 710.02(b)).

3. When responding to the office action, Applicant is advised to clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. He or she must also show how the amendments avoid such references or objections. See 37 C.F.R. ' 1.111(c).

4. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist examiner to locate the appropriate paragraphs.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong Kim whose telephone number is (571) 272-4181. The examiner can normally be reached on M-F 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on (571) 272-4182. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 whose telephone number is (571) 272-2100.

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

7. **Any response to this action should be mailed to:**

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

or faxed to TC-2100:
571-273-8300

Hand-delivered responses should be brought to the Customer Service

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Window (Randolph Building, 401 Dulany Street, Alexandria, VA 22314).

HK
Primary Patent Examiner
February 5, 2006

A handwritten signature in black ink, consisting of a stylized 'H' followed by a series of loops and a final flourish.